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1801	2

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18M1/0613

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-13 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-13 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☒ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

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Part III DETAILED ACTION

Drawings

1. The drawings are objected to because of the inclusion of two "150"s. Is this for clarity or in error? Reference numeral "340" should be relocated to the left-hand side of the figure to allow for ease in locating the numeral when reading the specification (page 8, lines 3-10). One would expect "340" to be located proximate the other reference numerals disclosed on page 8, lines 3-10. Reference numeral "160" is disclosed as being a plurality of carriers (page 6, line 19), however the figure simply illustrates a dot. Correction is required.

2. The drawings are objected to because they do not include certain reference signs mentioned in the description. 37 CFR § 1.84(f) states, "Reference signs not mentioned in the description shall not appear in the drawing and vice versa." The following reference signs are not included in the drawings: "253" (page 10, line 7). Correction is required.

Specification

3. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using

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it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to provide an adequate written description of the invention. The specification discloses a drum having a heating section and an oxidizing section. It is clear that the heating section is provided for by a heat exchange device and the oxidizing section is provided for by an oxygen injection means, however it is unclear as to what delineates the two sections in the drum. There exists no physical barrier between the two sections? Could not oxidation occur in the heating section? Does the oxidizing section not also become heated along with the heating section?

4. The disclosure is objected to because of the following informalities:

Exemplary of such:

Page 6, line 13, it is believed that "114" should be replaced with "112".

Page 9, line 15, it is unclear as to what is meant by "500° _".

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It is unclear as to what "304" refers. On page 8, line 19, it refers to an "oil feed line", however on page 10, line 15, it refers to a "liquid oil stream".

Page 15, line 1, "and method are" should be replaced with "is" to correspond with the claimed invention.

In the title, "Method and" should be deleted to correspond with the claimed invention.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. Claims 1-5 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

6. Claims 1-13 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Exemplary of such:

Claims 1-13, line 1, "A/The heat exchanger" should be amended to more clearly identify the apparatus. A heat exchanger appears to be an aspect of the invention rather than the invention.

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Claim 1, line 8, it is unclear as to what distinguishes the oxidizing section from the heating section. The claim fails to set forth a structural element that would allow one to structurally distinguish the oxidizing section from the heating section.

Claim 1, lines 11-12 and claim 6, lines 6-7, it is unclear as to where the two outlets are structurally located relative to the other the elements.

Claims 2 and 10, line 2 and claims 11 and 13, lines 1 and 2, it is unclear as to what constitutes "hot". How hot is hot?

Claim 2, line 2, it is unclear as to what structurally distinguishes the hot and cooler end from each other. It appears that ends of different temperatures would be a function of the operation of the device rather than a structural element.

Claim 3, it is unclear as to where the condenser is structurally located relative to the other elements.

Claim 5, it is unclear as to where the drum is sealed. Is the entire drum placed within a sealed enclosure? Are the ends sealed?

Claim 6, line 8, it is unclear as to where the chamber is structurally located relative to the other elements.

Claim 6, line 8, it is unclear as to what structurally defines the chamber. What structural element enables the chamber to be used as an "oil spray chamber"?

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Claims 7-10, it is unclear as to the structural locations of the elements. The locations are defined by functional use as opposed to structural location relative to the other elements.

Claim 10, line 2, "said hot end" lacks proper antecedent basis.

Claim 10, it is unclear as to the distinction between claim 10 and claim 9. Do not both means feed the same material to the drum?

Claim 11, line 1, "said burner" lacks proper antecedent basis.

Claim 11, line 3, "said solids removing section" lacks proper antecedent basis.

Claim 12, it is unclear as to where the condenser is structurally located relative to the other elements.

7. Claims 8-11 and 13 are rejected under 35 U.S.C. § 112, fourth paragraph, as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Claims 8-10 provide elements whose "means-plus-function" is based on limitations provided in the functional language of previous claims. The structure would be more appropriately defined by its connection to other structural elements rather than by the intended use of the apparatus.

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Claims 11 and 13 provide limitations that are directed to the method of use of the apparatus rather than a structural limitation.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1 and 3-5 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Reed et al..

Reed et al. discloses a rotatable drum with a first and second end (col. 9, lines 25-26, fig. 1).

Reed et al. discloses a means for feeding material into the drum (col. 9, lines 30, 38-41).

Reed et al. discloses a heating section with a heater in thermal contact with the section (col. 3, lines 23-27, 64-66).

Reed et al. discloses an oxidizing section between the heating section and the second end (col. 9, lines 32, 43-44).

Reed et al. discloses a means to remove the solids (col. 9, lines 45-46).

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Reed et al. discloses a means for removing the vapors (col. 11, lines 45-47).

With respect to claim 3, Reed et al. discloses a condenser (col. 14, lines 35-36).

With respect to claim, 4, Reed et al. discloses the feeding means to be coaxial with the drum (fig. 1, #12,1).

With respect to claim 5, Reed et al. discloses the drum being sealed to the environment (col. 9, lines 41-42).

10. Claims 6-8 and 12 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Hogan('954).

Hogan('954) discloses a rotatable drum with a first and second end (col. 5, line 55).

Hogan('954) discloses a means for feeding material into the drum (col. 6, lines 62-64).

Hogan('954) discloses a heating section with a heater in thermal contact with the section (col. 6, lines 4-5, 11-13).

Hogan('954) discloses a means for removing solids (col. 7, lines 1-4, 39-40).

Hogan('954) discloses a means for removing vapors (col. 6, lines 66-68).

Hogan('954) discloses an oil spray chamber (col. 3, lines 55-61).

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With respect to claim 7, Hogan('954) discloses a cyclone (col. 3, line 55).

With respect to claim 8, Hogan('954) discloses the recirculation of oil (col. 11, line 44).

With respect to claim 12, Hogan('954) discloses a condenser (col. 3, lines 50-51).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 86 S.Ct. 684, 15 L.Ed. 2nd 545 (1966), 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. § 103 are summarized as follows:

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1. Determining the scope and contents of the prior art;
2. Ascertaining the differences between the prior art and the claims at issue; and
3. Resolving the level of ordinary skill in the pertinent art.

13. Claim 2 is rejected under 35 U.S.C. § 103 as being unpatentable over Reed et al. in view of Hogan('952).

Reed et al. discloses a similar apparatus however fails to disclose the heater having a burner.

Hogan('954) discloses the use of a burner and coaxial heating duct to heat a rotatable drum (col. 2, lines 45-49). It would have been obvious to one of ordinary skill in the art to provide the heater assembly of Hogan('954) in Reed et al. to provide for a heater that is integral with the system, would provide for uniform and consistent heating, and could operate in the first use of the apparatus with no material present.

With respect to a "hot" and "cooler" end, Reed et al. discloses the drum having a "hot" end and a "cooler" end (fig. 1, #6,8).

14. Claims 9-10 are rejected under 35 U.S.C. § 103 as being unpatentable over Hogan('954).

Hogan('954) discloses a similar apparatus however fails to disclose feeding material from the scrubber to the drum.

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Hogan('954) discloses the recirculation of oil within the scrubber system (col. 11, lines 28-56). It would have been obvious to one of ordinary skill in the art to recirculate the solids of Hogan('954) from the scrubber to the drum to ensure for the most effective treatment of the material.

15. Claim 11 is rejected under 35 U.S.C. § 103 as being unpatentable over Hogan('954) in view of Morhard et al...

Hogan('954) discloses a similar apparatus however fails to provide a counterflow of heated air within the drum.

Morhard et al. discloses providing the counterflow of combustion gases with a rotatable drum (col. 7, lines 28-30). It would have been obvious to one of ordinary skill in the art to provide the counterflow of Morhard et al. in Hogan('954) to provide for a means to additional heat the material within the drum. With respect to "where" the gas originate, it would have been obvious to one of ordinary skill in the art to utilize the gas generated from the burner of Hogan('954) and Morhard et al., rather than the gas generated in the oxidizing section, to provide for gas that is not contaminated with any reaction products as a result of any reaction occurring in the drum.

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16. Claim 13 is rejected under 35 U.S.C. § 103 as being unpatentable over Reed et al. in view of Hogan('954) and Morhard et al..

Reed et al. in view of Hogan('954) disclose a similar apparatus however fails to provide a counterflow of heated air within the drum.

Morhard et al. discloses providing the counterflow of combustion gases with a rotatable drum (col. 7, lines 28-30). It would have been obvious to one of ordinary skill in the art to provide the counterflow of Morhard et al. in Reed et al. in view of Hogan('954) to provide for a means to additional heat the material within the drum. With respect to "where" the gas originate, it would have been obvious to one of ordinary skill in the art to utilize the gas generated from the burner of Reed et al. in view of Hogan('954) and Morhard et al., rather than the gas generated in the oxidizing section, to provide for gas that is not contaminated with any reaction products as a result of any reaction occurring in the drum.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hawkins, DeCicco et al., and Chang disclose rotatable drums with heating sections.

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Hogan('026,'836) were cited by Applicant to disclose known carriers for the interior of rotatable drums.

Angelo,III, Taciuk, and Clawson et al. disclose retorts with oxidizing sections.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Snider, whose telephone number is (703) 308-3913. The examiner can normally be reached on Monday-Thursday from 7:00AM-5:30PM(EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Warden, can be reached on (703) 308-2920. The fax number for Group 180 is (703) 305-3014.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

B.S. A.
THERESA T. SNIDER
PATENT EXAMINER
GROUP 1800

June 9, 1995